



47483c1.app

SEQUENCE LISTING

<110> DANA-FARBER CANCER INSTITUTE, INC.

KOLODNER, Richard

WINAND, Nena

<120> A METHOD OF DETECTION OF ALTERATIONS IN MSH5

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<141> 1999-12-22

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<151> 1997-07-03

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 20 25 30

Ala Gly Pro Gly Gly Ile Glu Glu Glu Asp Glu Glu Pro Ala Glu

35

40

45

Ile His Leu Cys Val Leu Trp Ser Ser Gly Tyr Leu Gly Ile Ala Tyr			
50	55	60	
Tyr Asp Thr Ser Asp Ser Thr Ile His Phe Met Pro Asp Ala Pro Asp			
65	70	75	80
His Glu Ser Leu Lys Leu Leu Gln Arg Val Leu Asp Glu Ile Asn Pro			
85	90	95	
Gln Ser Val Val Thr Ser Ala Lys Gln Asp Glu Ala Met Thr Arg Phe			
100	105	110	
Leu Gly Lys Leu Ala Ser Glu Glu His Arg Glu Pro Lys Gly Pro Glu			
115	120	125	
Ile Ile Leu Leu Pro Ser Val Asp Phe Gly Pro Glu Ile Ser Lys Gln			
130	135	140	
Arg Leu Leu Ser Gly Asn Tyr Ser Phe Ile Ser Asp Ser Met Thr Ala			
145	150	155	160
Thr Glu Lys Ile Leu Phe Leu Ser Ser Ile Ile Pro Phe Asp Cys Val			
165	170	175	
Leu Thr Val Arg Ala Leu Gly Gly Leu Leu Lys Phe Leu Ser Arg Arg			
180	185	190	
Arg Ile Gly Val Glu Leu Glu Asp Tyr Asp Val Gly Val Pro Ile Leu			
195	200	205	
Gly Phe Lys Lys Phe Val Leu Thr His Leu Val Ser Ile Asp Gln Asp			
210	215	220	
Thr Tyr Ser Val Leu Gln Ile Phe Lys Ser Glu Ser His Pro Ser Val			
225	230	235	240
Tyr Lys Val Ala Ser Gly Leu Lys Glu Gly Leu Ser Leu Phe Gly Ile			
245	250	255	
Leu Asn Arg Cys Arg Cys Lys Trp Gly Gln Lys Leu Leu Arg Leu Trp			
260	265	270	

Phe Thr Arg Pro Thr Arg Glu Leu Arg Glu Leu Asn Ser Arg Leu Asp  
 275 280 285

Val Ile Gln Phe Phe Leu Met Pro Gln Asn Leu Asp Met Ala Gln Met  
 290 295 300

Leu His Arg Leu Leu Ser His Ile Lys Asn Val Pro Leu Ile Leu Lys  
 305 310 315 320

Arg Met Lys Leu Ser His Thr Lys Val Ser Asp Trp Gln Val Leu Tyr  
 325 330 335

Lys Thr Val Tyr Ser Ala Leu Gly Leu Arg Asp Ala Cys Arg Ser Leu  
 340 345 350

Pro Gln Ser Ile Gln Leu Phe Gln Asp Ile Ala Gln Glu Phe Ser Asp  
 355 360 365

Asp Leu His His Ile Ala Ser Leu Ile Gly Lys Val Val Asp Phe Glu  
 370 375 380

Glu Ser Leu Ala Glu Asn Arg Phe Thr Val Leu Pro Asn Ile Asp Pro  
 385 390 395 400

Asp Ile Asp Ala Lys Lys Arg Arg Leu Ile Gly Leu Pro Ser Phe Leu  
 405 410 415

Thr Glu Val Ala Gln Lys Glu Leu Glu Asn Leu Asp Ser Arg Ile Pro  
 420 425 430

Ser Cys Ser Val Ile Tyr Ile Pro Leu Ile Gly Phe Leu Leu Ser Ile  
 435 440 445

Pro Arg Leu Pro Phe Met Val Glu Ala Ser Asp Phe Glu Ile Glu Gly  
 450 455 460

Leu Asp Phe Met Phe Leu Ser Glu Asp Lys Leu His Tyr Arg Ser Ala  
 465 470 475 480

Arg Thr Lys Glu Leu Asp Thr Leu Leu Gly Asp Leu His Cys Glu Ile  
 485 490 495

Arg Asp Gln Glu Thr Leu Leu Met Tyr Gln Leu Gln Cys Gln Val Leu  
500 505 510

Ala Arg Ala Ser Val Leu Thr Arg Val Leu Asp Leu Ala Ser Arg Leu  
515 520 525

Asp Val Leu Leu Ala Leu Ala Ser Ala Ala Arg Asp Tyr Gly Tyr Ser  
530 535 540

Arg Pro His Tyr Ser Pro Cys Ile His Gly Val Arg Ile Arg Asn Gly  
545 550 555 560

Arg His Pro Leu Met Glu Leu Cys Ala Arg Thr Phe Val Pro Asn Ser  
565 570 575

Thr Asp Cys Gly Gly Asp Gln Gly Arg Val Lys Val Ile Thr Gly Pro  
580 585 590

Asn Ser Ser Gly Lys Ser Ile Tyr Leu Lys Gln Val Gly Leu Ile Thr  
595 600 605

Phe Met Ala Leu Val Gly Ser Phe Val Pro Ala Glu Glu Ala Glu Ile  
610 615 620

Gly Val Ile Asp Ala Ile Phe Thr Arg Ile His Ser Cys Glu Ser Ile  
625 630 635 640

Ser Leu Gly Leu Ser Thr Phe Met Ile Asp Leu Asn Gln Val Ala Lys  
645 650 655

Ala Val Asn Asn Ala Thr Glu His Ser Leu Val Leu Ile Asp Glu Phe  
660 665 670

Gly Lys Gly Thr Asn Ser Val Asp Gly Leu Ala Leu Leu Ala Ala Val  
675 680 685

Leu Arg His Trp Leu Ala Leu Gly Pro Ser Cys Pro His Val Phe Val  
690 695 700

Ala Thr Asn Phe Leu Ser Leu Val Gln Leu Gln Leu Leu Pro Gln Gly  
705 710 715 720

Pro Leu Val Gln Tyr Leu Thr Met Glu Thr Cys Glu Asp Gly Glu Asp

725

730

735

Leu Val Phe Phe Tyr Gln Leu Cys Gln Gly Val Ala Ser Ala Ser His  
 740 745 750

Ala Ser His Thr Ala Ala Gln Ala Gly Leu Pro Asp Pro Leu Ile Ala  
 755 760 765

Arg Gly Lys Glu Val Ser Asp Leu Ile Arg Ser Gly Lys Pro Ile Lys  
 770 775 780

Ala Thr Asn Glu Leu Leu Arg Arg Asn Gln Met Glu Asn Cys Gln Ala  
 785 790 795 800

Leu Val Asp Lys Phe Leu Lys Leu Asp Leu Glu Asp Pro Thr Leu Asp  
 805 810 815

Leu Asp Ile Phe Ile Ser Gln Glu Val Leu Pro Ala Ala Pro Thr Ile  
 820 825 830

Leu

<210> 55  
 <211> 232  
 <212> DNA  
 <213> Human

<400> 55  
 gtaaacctccg cgtgacagaaa tgagggtggg gcgcgtggag tttcccacaa tctgtacttt  
 60  
 agttaaatac ccgagaattc acctcctgtg tccacagctc tccacgcccc tcagccctgc  
 120  
 cccgcagccc tgtatcagaa gtacttagcg cttagcattc tgcgccac cctaccccg  
 180  
 cctcctctgt gaatcggtgc ttccgaaccg ccctcacttt ttgcattccgc ag  
 232

<210> 56  
 <211> 74  
 <212> DNA

<213> Human

<220>

<221> intron

<222> (73)..(74)

<223> N = A or T or G or C

<400> 56

gtctctgagg ggagtagaaa cttgaatgga gagttgatgg gaatttaaaa taaaagaggg

60

ttgggagccg ggnn

74

<210> 57

<211> 189

<212> DNA

<213> Human

<400> 57

aaaaaaaaac agggttggga agagctgggc aagtctctta ctccttgagt ggctgtttca

60

cattcactaa atgggggtga tgatgcctat ctcagagatt tgagaaaatg attaaattat

120

ataagacatg gttaacccta cacttatgag tgattctaat agtgatttcc ttttttcctt

180

gctggacag

189

<210> 58

<211> 450

<212> DNA

<213> Human

<220>

<221> intron

<222> (449)..(450)

<223> N = A or T or G or C

<400> 58

gtggggatgg aaccatgaat tcctctgctc tctgggattg cagatgtgtt acacacacac

60

acacacacac acacacacac acacacatat ttttttttc tagacagagt cttgctctgt  
120  
tacccaggct caagtgcagt ggcgcaatct tggctcactg cagcctccac ctcctgggtt  
180  
caagcaattc tcctgactca acctccccgag tagctgggac tacaggcggtg tgccaccaca  
240  
cccagctagt tttttgtgtg tgtttttagc acagacggtg tttcaccatg ttggccaggg  
300  
tggctctaaa ctcctgacct tgtgatccgc ccacccctggc ctcctaaagt gctgggacta  
360  
caggtgtgag tcaccacgcc cagccatgtt ttacttacat taactcacct cactgtctag  
420  
catattttgt gttgctgtaa ggaaataacnn  
450

*a*  
<210> 59  
<211> 323  
<212> DNA  
<213> Human

<400> 59  
ggcgacaaat atatatgacg tatttacaat gtttcaggtg cttcagattc agccctggc  
60  
aaatcagtca tgtctgttct ccaggggtt acagcctagt gacaacatcc agaacatccc  
120  
acttccctct caccatccca ccactcttaa ctactttct aaatctcaac ttctacactgt  
180  
gttcccactg tgcaagagcac tccctactcc tagggaggaa atgttttga gaaggagagg  
240  
ggtaggaaga ggagggctat gggtttctc ttagtcaaag acaaagatcc tttaactcat  
300  
ttgatctctg ttctcattcc aag  
323

<210> 60  
<211> 150  
<212> DNA  
<213> Human

<400> 60  
gtaaggactt ggttaaaggat agagggaaaa tggggaaagga ctaatatatg gaatattcca

60

gggggctaga attgggtgag agggagtgtc agacagaggt agaaggactg agatgtaaag  
120

aatgatagcc ttttcttcc tcccccacag

150

&lt;210&gt; 61

&lt;211&gt; 733

&lt;212&gt; DNA

&lt;213&gt; Human

&lt;400&gt; 61

gtatctcctt cttttgctt tgccataactc cctgttccgg tgtcccattc tttcccccaa  
60

ctctaccttc atcatcacag atctcccctc tgccttatgt catcctaaac ctttgtgctc  
120

ctcatgcctt atgacctgtc ccccaagat ctctcctgct ccctaccctt taataatctg  
180

cagcttatttgc ggaaggctct gcttaagtca tgtctaggga tgagggcctc ccctgaggag  
240

tggtgacact tttggacag ggttttatttgc ttggattct ccccatthaag ttaaaggcctt  
300

ttatcaccaa accaaaaggc actgcctcag tgacccttat tatgatccat aaggcacttc  
360

tataactttc ctaggtttac aataagaaca ggagtgtact atcctaatta gatattaagg  
420

cattagtgtt actagttcta ttaataccat tattttgacc aaaatcctca attccagaca  
480

gatgtctact ttccctcagcc atttatctt ctcaggctgt gcttcagac aagtatctt  
540

atattatatg tagaataaaa agagaattag actaagagtc tgaaaatttg gttcttgctc  
600

tagcttcca ttaactgcct gtgtgagctt gggcaagtca aataatctct cttgcttcta  
660

ttgtctcatt cttaaaaatgg ggtaaaaaaa ttgagctaca agaccgttcc ctttgcttgc  
720

ctccctcaaa tag

733

&lt;210&gt; 62

&lt;211&gt; 164

<212> DNA  
<213> Human

<400> 62  
gtgagattgg tcctggggga taagggctgg gaggcgac aagtgcagg gctgaattct  
60  
gggaggtact ggccctagccc tggaaaatag taactttccc tggtgctctg cagccccag  
120  
gagatttaag atttaccccg attccactgc tgatcccctc ccag  
164

<210> 63  
<211> 246  
<212> DNA  
<213> Human

<400> 63  
gtaggtgatt caccccaacc ccaaccaaag taatgtggga ttgggaggcc tgaaaagtaa  
60  
agtgggggtg ggggtgtggat gtggctgtga cccagtggtt caaggctct aggacacccg  
120  
ggagaatcta agggctaattg agactttggg aagaagactg ggacaatatt cagagagggg  
180  
gacaaaggaa gtggagttgt ggaacgaact cagactgctt cctgctttt tgtttctgt  
240  
cctcag  
246

<210> 64  
<211> 413  
<212> DNA  
<213> Human

<220>  
<221> intron  
<222> (412)..(413)  
<223> N = A or T or G or C

<400> 64  
gtaaagaggt ggaggcatgc tgctgtctct ggggagggag aaggattaag tttaatgcc  
60

caataatcct aatgaggctc tagttccct aatcctgggg ctattaagat ctctctcctt  
120  
gaaggaaagg gaaggggggt tttgagggaa agagaggaag aaaagcataa agataactagc  
180  
tttctttct atagggagaa actgaggcaa agaaaaagtaa gggacaaacc ttacatcaag  
240  
atatgatctc ggctgggcgc ggtggctcat gcctgtaatc cccgcgcctt gggaggccaa  
300  
ggcggggtgga tcgcctgagg tcaggagttt gagacctgac caatatggta aaaccccgtc  
360  
tctactaaaa atataaaaaat tagctgggtg tggtgtgcgc ctgtaatccc ann  
413

  
<210> 65  
<211> 136  
<212> DNA  
<213> Human

<400> 65  
tttttttta aaaaaaaaaaaa aaaaaaagacg tgatctcagg aggatatccc ctgtccccat  
60  
tccatttatc agtcctcaat tcttattccc ctcaaaagtc caagttaccc caaactcctc  
120  
catttctcct cgacag  
136

<210> 66  
<211> 356  
<212> DNA  
<213> Human

<220>  
<221> intron  
<222> (355)..(356)  
<223> N = A or T or G or C

<400> 66  
gtaggtgtgc cccatccctc atctcacgta caaagaccta ccagaaaagc aattggctcc  
60  
aaagatgtgt cccagcctcc cttcccactt cactcccatt gtcagatatc tctttcatgc  
120

caatccaaat ttcttaccta tttgtacccc ccgcggggca agcttgagca tcttccata  
180  
ctttgtggct gtacagtgtg ttgcatatca gccattactt taccaattct gtgttccttc  
240  
cctgggtttg tatgaatgtt tctactagtt gggtaacctgt tagggacttt gggagacctt  
300  
gtgtatagag aagagtttg taactgcata actgcctatt tgatttgtat agagnn  
356

<210> 67  
<211> 426  
<212> DNA  
<213> Human

<400> 67  
ccaggagtag agggagagac agaaacagcc aacaatggcc cagaaaatgg atgatatatt  
60  
agataaggga agaaatgagt taccagattt gggagagatg gtttggatgt caaagcaggt  
120  
gatcggtgac gtcagcgtcc gagggaaagac ggctgccacc ggccggggcca gttgagggaa  
180  
ctaggttagtt aagtgttgtc gggctaaaag tccctagagt gtccatccct cccccatctc  
240  
catgtgcggt aatcccagct catttagggg ccagggcacca actttggttg cctttgtgcc  
300  
ctccccaggcc agcttcctca acaaccagca cctctgactg gatgcctcag gttagacaca  
360  
taaacacatt ccattgcctt gtccgtgcct tgtaacaagt tcactccctg ccttatccct  
420  
cacaag  
426

<210> 68  
<211> 360  
<212> DNA  
<213> Human

<220>  
<221> intron  
<222> (359)..(360)  
<223> N = A or T or G or C

&lt;400&gt; 68

gtgagtgggt cccacacata ctacacacta atgcataat tccatatgca cactacatac  
60  
taaggctact aatggcagta tacagattct cacatacacc accccaccta gtagtagtaa  
120  
agcaactgcc cttaactgag cactggctaa ctgcatttca tccttataac agctttgtgt  
180  
agtagctgat atgcatactca tttttgttg tcagcgcagg tacacatata cattgatgat  
240  
acacagactt gcacacatac agcagcagga aaaaacacaa aatgtaaggc cgggcacagt  
300  
ggctcacacc tgttatcagc actttggggg gccaacgctg ggtgaccttc catcttgnn  
360

&lt;210&gt; 69

&lt;211&gt; 447

&lt;212&gt; DNA

&lt;213&gt; Human

&lt;400&gt; 69

cacaggaaga atatgaaaag atgaatgtct gttgctgtta cccagagaca ctttcacagc  
60  
taaaaagaca tacaaactca tactgactca ccgtctctta ctcagcctca gagtgagctg  
120  
cagtgttggc acacaaatac ctcaacacac tgctctcctt ctaaaatatt gacaagctcc  
180  
gttacttata tacatggaat gacacacggt cttatccgtt gaaactgtga tatgtagaca  
240  
caattatgct cacatctagc aattttcagt agatacatgt aaacacacac ttatgggttag  
300  
gacactgcac ttgccactac attcccatag cacatcggtt atacatattt ccacaatccc  
360  
cagggactgc aagcacactt tttggcaaac tgagatcaag atgatagatg taactttag  
420  
taccccccacc caaaccctca cttccag  
447

&lt;210&gt; 70

&lt;211&gt; 127

&lt;212&gt; DNA

<213> Human

<400> 70

gtgagccca ggtggagggc agggaggtgg ggaaggaggt tgagggctga tactggcag  
60  
tgggcttctt gaggggcatt agagtgaggg aagagaaaac agcggctgta accttgtctg  
120  
actgtag  
127

<210> 71

<211> 30

<212> DNA

<213> Human

<220>

<221> intron

<222> (29)..(30)

<223> N = A or T or G or C

<400> 71

gtaaggcctt cttcttgaa tcccaaaann  
30

<210> 72

<211> 222

<212> DNA

<213> Human

<400> 72

tacaggcatg agccactgtg cctggccagg accatatctt aattgtcttt gtagttcag  
60  
tgtttggtagt acgtgcctctc actgtttctt tttgcctttg agatctccc tctttgttac  
120  
tgtgatcttc cctactggtc tttgttcttc tgagtctgtc cctatcacca cctcaaccgg  
180  
agctggatgt ggccctgtcct ccttttgtg tttctctcac ag  
222

<210> 73

<211> 254  
<212> DNA  
<213> Human

<400> 73  
gtgagtagaa ggaaaaagg agtgcaccca gggaggtcag ggagagagaa tgcagtgtgc  
60  
aagatgggaa aacatggaag atattgaggt caattggata aagaatggaa tggtgggagg  
120  
aggcagcaga acttcaggaa agtatctgga gggtagact taaaggagga ctgcagggag  
180  
aattggggcc caaggagagc tgaggaacag gacagagggt gccaggtact aagaaacagt  
240  
acttatctcc tcag  
254

01  
<210> 74  
<211> 145  
<212> DNA  
<213> Human

<400> 74  
gtgagtggttg ggtgtggatg ggcctgttag ccctgcgcag tgatggagta ccatccttgg  
60  
caggtggtca ccacagctgg ggatcttcat agcaaccagg gcaggagact cactttgtat  
120  
aaccacacctgt cttccaccct cgtag  
145

<210> 75  
<211> 98  
<212> DNA  
<213> Human

<220>  
<221> intron  
<222> (97) .. (98)  
<223> N = A or T or G or C

<400> 75  
gtgagggcag gagagtgggt gtagccttca gatgtcttt gggggagata ttaggcttat

60

gaaagacata ctggtagata agaaaacttg tggggcnn

98

&lt;210&gt; 76

&lt;211&gt; 83

&lt;212&gt; DNA

&lt;213&gt; Human

&lt;400&gt; 76

atcttttaag ctcccttggg atggggagggt tccagtaagt ctccaaacaa gagagttagag

60

tatctcctct ttactctccc cag

83

&lt;210&gt; 77

&lt;211&gt; 247

&lt;212&gt; DNA

&lt;213&gt; Human

&lt;400&gt; 77

gtaagacct caacctctgt aaggtgagtg atgaggaaaa tgagtcagca gctgaggaag

60

agcgttactc tacagcagca ctgccaata tggatctct cctctgttgt tttactctga  
120gcattaccag cactgagaca aaggaaagag aagtcagagt tagggctgg aggtggggtt  
180

agaaagatgg ggaaggagag gaggaccaag agatgcaaag tccacagctt tgaaccctg

240

tacccag

247

&lt;210&gt; 78

&lt;211&gt; 273

&lt;212&gt; DNA

&lt;213&gt; Human

&lt;400&gt; 78

gtgagggaaaa gccagaggtt atatgcattg taagatgttt aaaaaaagca gcagccaggg

60

gaaggagggg agtgggcaac ttggggatgc ttccaacagg cccctcctct tcctgctctc  
120  
tgtctcgctc actctgactc tatctttcc tctgaatgtc ttgaggtctc agattgtatc  
180  
tgcaaactgt ttccagatcc ccctaggggc ctctgcctct ctttcacttt cccctggaac  
240  
tgacctccag ctccccttcct cacccactcc cag  
273

<210> 79  
<211> 114  
<212> DNA  
<213> Human  
  
<400> 79  
gtaagaatag aggccgggtgg aggaatacac atgaggggcc caaaggctac atcttctggg  
60  
ggttcatcta tcttgatcca caagccatgc gaggtgcctc tccgcccact gcag  
114

<210> 80  
<211> 473  
<212> DNA  
<213> Human  
  
<400> 80  
gtgaggagaa gccctgcagc ctgggcctct ggcgctcact gcatctactc cacccctact  
60  
tgccagccaa ctcaggctcc tgcaagctttt ctccatgtt ctgaccggc tcttcatgaa  
120  
aggaccatca cccacatccc tgtgcttcca cctcacatgt tcttattctc cactggagag  
180  
ccatgctcta atggaacttt ccgtggccca aattccttca cctgcctctg agtaggtaca  
240  
caccactccc aagtatgtct ctgcccacgt cccgtgcctc ttcactgatt ctaaattagc  
300  
ccacagggct atggtcagga ttccgggagg agagacagag tcagtgtgtc tgttacctat  
360  
ttctcctgtt tcaccctgtc catttctttt tcatgtgcca ttcatgcctt gagcctcact  
420  
ttcacctcag cccacggcac caggccccag gccctgtctc cttccctatt cag

473

<210> 81  
<211> 348  
<212> DNA  
<213> Human

<400> 81  
gtcaaaggga acaaagggag gtgggattga ggaagggat aatggaaag gaaccctga  
60  
aaatgctcat aacaggaaag catgccctct gctgcattgc ctttatacta aaagtgggg  
120  
gcactaaggc cagagataag aagaatcaat accataaaca tttcttgaac ctttgttca  
180  
tgtgagtcac tggtggcaaa gaggatgaac aaagcggtca cctcaccatt caagaacttg  
240  
cagtgcagta gggagggcat gtatacagct ttattcacag gccaaactgtg gtcagtgcg  
300  
tacgggcttc caataactaac ttccccttgt ccacccata cccagcag  
348

<210> 82  
<211> 209  
<212> DNA  
<213> Human

<400> 82  
gtgaggggag aaactgatga gggagaaac taaggagggg aaaatggagg aggatgaagg  
60  
agcatgacag tgaggctggg cctctggat ggaataggc tgtgtggca gaaaagaaat  
120  
agaacacgag acagggaaag gcagtgcag tgcagagggg catatgggtt cccatggct  
180  
ccgaatgcta acctctgccc tctttgcag  
209

<210> 83  
<211> 202  
<212> DNA  
<213> Human

&lt;400&gt; 83

gtgaggagac caatctagct cctcgaaaaac ccccaggctg ggcattttccc agaggtgggg  
60  
attggcttct ctatcagaac aagggtccc tcagcacaga gaccacatcc cttccctttt  
120  
ctcccccccc acaggattgg ccaagggttt caggacagga aggaggtgat tgatgataca  
180  
ctgtctttta ttctctttta ag  
202

&lt;210&gt; 84

<211> 155  
<212> DNA  
<213> Human

&lt;400&gt; 84

gtgatgagat ccaaattgtgc aaccacctcc acatcagagc tccctttcat tcctagtcc  
60  
actgggcctg ggtcttaggtc cacaggattt ctgaccctta tttcccttc tcttccccac  
120  
tccccttact cctcccacct tcttgcttgt cctag  
155

&lt;210&gt; 85

<211> 215  
<212> DNA  
<213> Human

&lt;400&gt; 85

gtgcgtatat ggccccagtg tctttaccct ctctgcatact tctcctgcaa ctcttctccc  
60  
ccctccagca ctttgccctt cagaaaccca ccattttttt ctgaaaatccc taaatcttca  
120  
agatcccagg ttttctgtgc cacagcctct cccctctgcc cagggatttg gttgtccatt  
180  
ctgccataaaa tcttgcgatt ttctctttc ttca  
215

&lt;210&gt; 86

<211> 29  
<212> DNA  
<213> Human

<400> 86  
gctgctcagg tatacagtac cacgctccc  
29

<210> 87  
<211> 29  
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